



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 615,875	07 13 2000	Hideaki Tanaka	36856.336	4354

7590 05 22 2003
Keating & Bennett LLP
Suite 312
10400 Eaton Place
Fairfax, VA 22030

EXAMINER

GLENN, KIMBERLY E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05 22 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/615,875

Applicant(s)

TANAKA, HIDEAKI

Examiner

Kimberly E Glenn

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 2-7,9-13,15,16 and 18-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 2-4,6,7,13,15,16 and 18-22 is/are allowed.
- 6) ☐ Claim(s) 5,9-12,23-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Applicant is advised that should claim 11 be found allowable, claim 33 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

Claims 4, 5, 6, 7, 9, 10, 12 and 20 are objected to because of the following informalities: In all the independent claims applicant disclose a coil divided into inductors. It appears from the figures that there is four inductors connected in series instead of a single coil divided into four inductors. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,9, 10-12, 23,24,26,27,28,30,31,33,34,35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda et al US Patent 5,197,170 in view of Golant et al US Patent 3,879,690.

The primary reference Senda et al teaches a circuit comprising of plurality (six) inductor coil patterns (16a 16b) in a multilayer laminated structure wherein the multilayer laminated

Art Unit: 2817

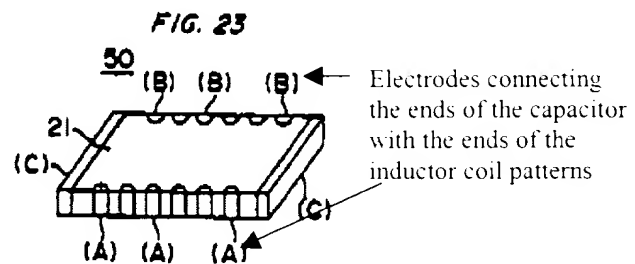
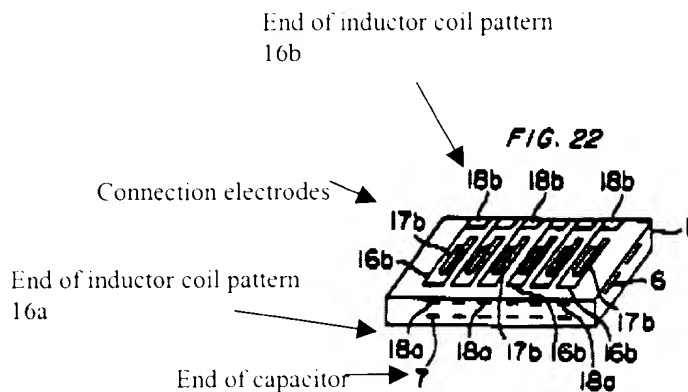
structure comprises a plurality of ceramic sheets produced by mixing a dielectric material power with a resin binder. The inductor coil patterns are connected to each other via connection electrodes (17a 17b). The inductor coil patterns are arranged on the same plane and have same shape. The inductor coil patterns are parallel to the layer in the laminated structure. The first inductor coil patterns (16a) are wound in the opposite direction to the winding of the other inductor coil patterns (16b). The circuit also comprises a three plurality (fourteen) of capacitors (5 6 7). The number of capacitor is greater than the number of inductors. The inductor and capacitor circuit have a π configuration and are used a π type noise (low pass) filters. One of the plurality of capacitors (7) is connected to an end of the plurality inductors (16a), and another of the plurality of capacitors (5) is connected to another end of the plurality inductors (16b), are located at different positions in a laminating direction of the insulating layers. (Figures 18-24 and column 6, line 5 through column 7 line12)

Thus, Senda et al is shown to teach all the limitations of the claim with the exception of the inductors and the capacitor comprising at least four stages of a low pass filter.

Golant et al discloses in figure 1, a low pass filter wherein the inductors and capacitor make of the stage of the filter. (Figure 1 and column 1 line 61 through column 2 line 18)

One skilled in the art at the time of the invention would have found it obvious to connect the ends of the inductors of Senda et al in the circuit configuration of Golant et al in order make a low pass filter.

Art Unit: 2817



Claims 5, 9-12 and 23-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo US Patent 5,583,470 in view of Golant et al US Patent 3,879,690.

The primary reference, Okubo teaches a circuit comprising of plurality (four) inductor coil patterns (21a 21b) in a multilayer laminated structure wherein the multilayer laminated structure comprises a plurality of dielectric layer (30a 30d) and a magnetic layer (1a-1i). The inductor coil patterns are connected to each other through vias (11 12 13 14). The inductor coil patterns are arranged on the same plane and have same shape. The inductor coil patterns are parallel to the layer in the laminated structure. The first inductor coil patterns (2) are wound in the opposite direction to the winding of the other inductor coil patterns (3). The circuit also comprises a plurality of capacitors (32 33). The number of capacitor is greater than the number of inductors. The inductor and capacitor circuit have a π configuration and are used a π type noise (low pass) filters. In figure One of the plurality of capacitors is connected to an end of the plurality inductors, and another of the plurality of capacitors is connected to another end of the

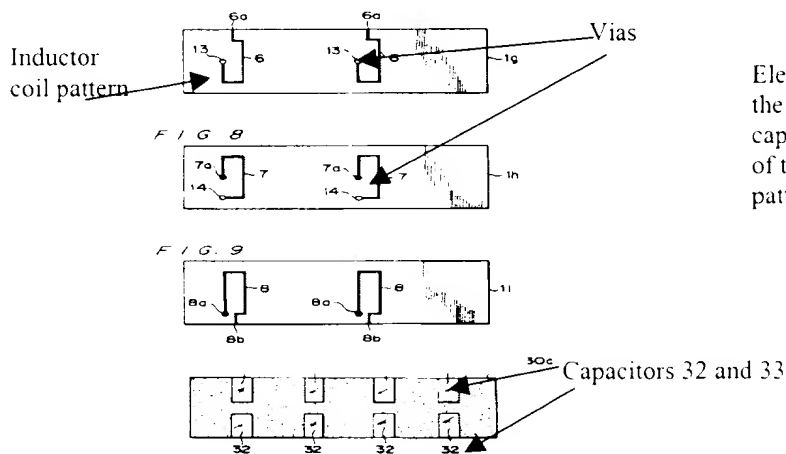
Art Unit: 2817

plurality inductors, are located at different positions in a laminating direction of the insulating layers. (Figures 1-9 and 13-18 and column 2 line 23 through column 3 line 67)

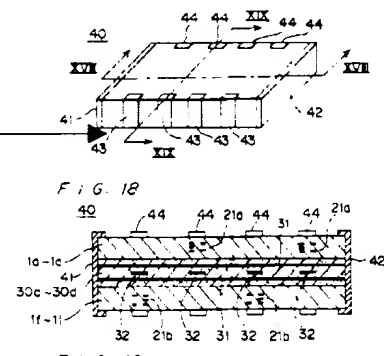
Thus, Okubo is shown to teach all the limitations of the claim with the exception of the inductors and the capacitor comprising at least four stages of a low pass filter.

Golant et al discloses in figure 1, a low pass filter wherein the inductors and capacitor make of the stage of the filter. (Figure 1 and column 1 line 61 through column 2 line 18)

One skilled in the art at the time of the invention would have found it obvious to connect the ends of the inductors of Okubo in the circuit configuration of Golant et al in order make a low pass filter.



Electrodes connecting the ends of the capacitor with the ends of the inductor coil patterns



Allowable Subject Matter

Claims 2-4,6,7, 13, 15 and 16-22 are allowed.

Art Unit: 2817

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 4, the prior art of record does not disclose or fairly teach the dielectric having a dielectric constant of 15 or less. With the regards to claims 6 and 20, the prior art of record does not disclose or fairly teach the ratio of the vertical dimension to the lateral dimensions of each of the coil conductor patterns is approximately 1. With regards to claim 7, the prior art of record does not disclose or fairly teach one end of a first of the at least three inductors of a k stage in the low pass filter and one end of a second of the at least three inductors of a $k+1$ stage adjacent thereto in the low pass filter are electrically connected to each other on an upper layer of the laminated body, and the second end of the another of the at least three inductors of the $k+1$ stage in the low pass filter and one end of a third of the at least three inductors of a $k+2$ stage adjacent thereto in the low pass filter are electrically connected to each other on a lower layer of the laminated body.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (703) 306-5942. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

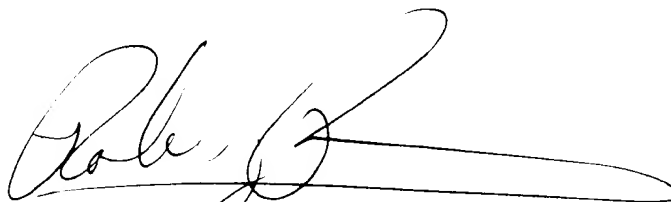
Application Control Number: 09 615,875

Page 7

Art Unit: 2817

Kimberly E Glenn
Examiner
Art Unit 2817

keg
May 19, 2003

A handwritten signature in black ink, appearing to read 'Kimberly E. Glenn', written over a horizontal line.

Supervisor
TSC